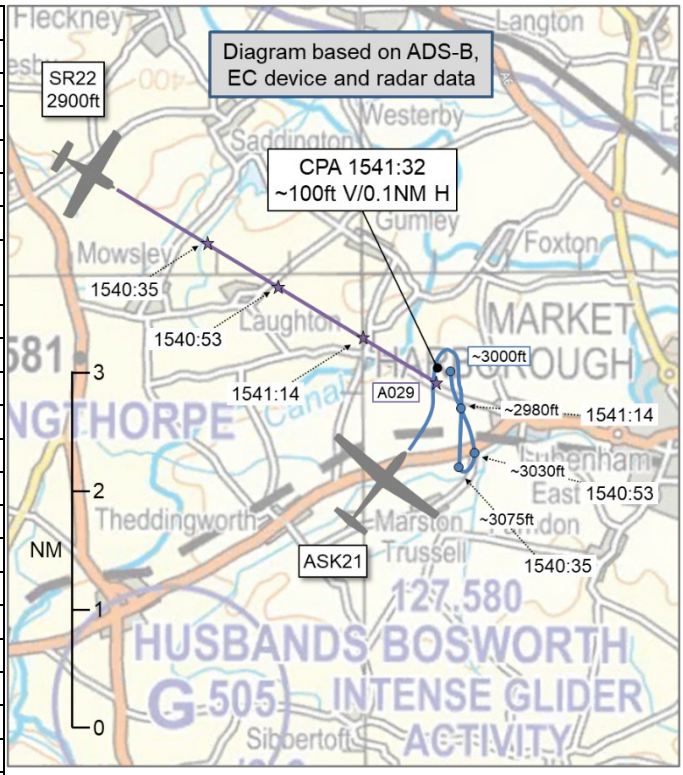
AIRPROX REPORT No 2023108

Date: 09 Jun 2023 Time: 1542Z Position: 5229N 00059W Location: 2NM W Market Harborough

PART A: SUMMARY OF INFORMATION REPORTED TO UKAB

Recorded	Aircraft 1	Aircraft 2
Aircraft	ASK21	SR22
Operator	Civ Gld	Civ FW
Airspace	London FIR	London FIR
Class	G	G
Rules	VFR	NK
Service	Listening Out	NK
Provider	Husbands Bosworth	NK
Altitude/FL	~3000ft	2900ft
Transponder	Not fitted	A, C, S
Reported		
Colours	White	NR
Lighting	None	NR
Conditions	VMC	NR
Visibility	>10km	NR
Altitude/FL	2500ft	NR
Altimeter	QFE (995hPa)	NR
Heading	270°	NR
Speed	50kt	NR
ACAS/TAS	FLARM	NR
Alert	None	NR
Separation at CPA		
Reported	0ft V/300m H	NR V/NR H
Recorded	~100ft V/0.1NM H	



THE ASK21 PILOT reports that, following an aerotow, they were flying east-to-west when they saw the other aircraft flying head-on at the same height. They turned right and saw the other aircraft pass under their left wing. The ASK21 pilot turned behind them. The [other pilot] took no avoiding action.

The pilot assessed the risk of collision as 'High'.

THE SR22 PILOT declined to report.

THE EAST MIDLANDS CONTROLLER reports that the pilot of the SR22 had not been in receipt of an ATS from East Midlands. The SR22 was observed on radar squawking 4572 (East Midlands listening-out squawk).

Having reviewed the radar recording from 1530 to 1545, two contacts could be seen displaying the East Midlands listening-out squawk, 4572. The first of these two contacts coincided closest to the time quoted for the Airprox.

The green circle in the screenshots, labelled "G", is Husbands Bosworth gliding site. The two pilots of the contacts squawking 4572 did not contact East Midlands at any point, and there is no relevant RT.

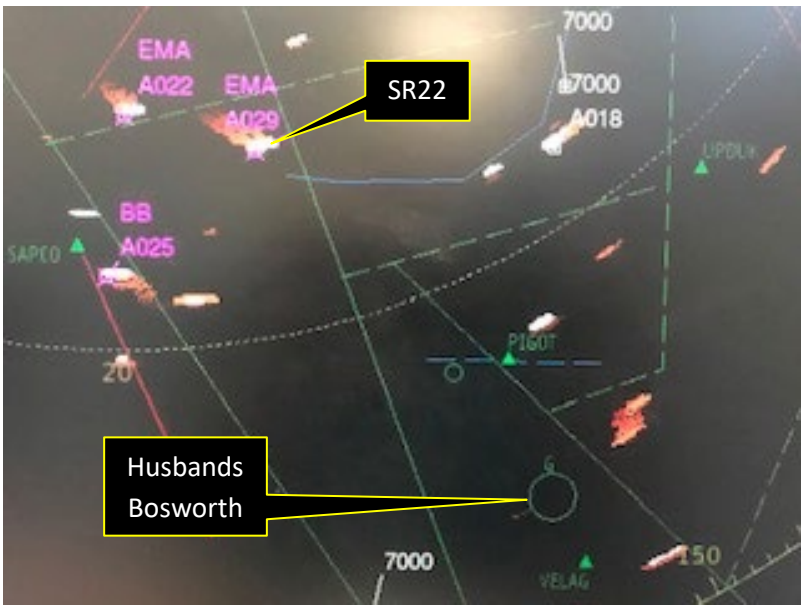


Figure 1 - 1537:00. The SR22 was observed on radar squawking 'EMA' (East Midlands Conspicuity).

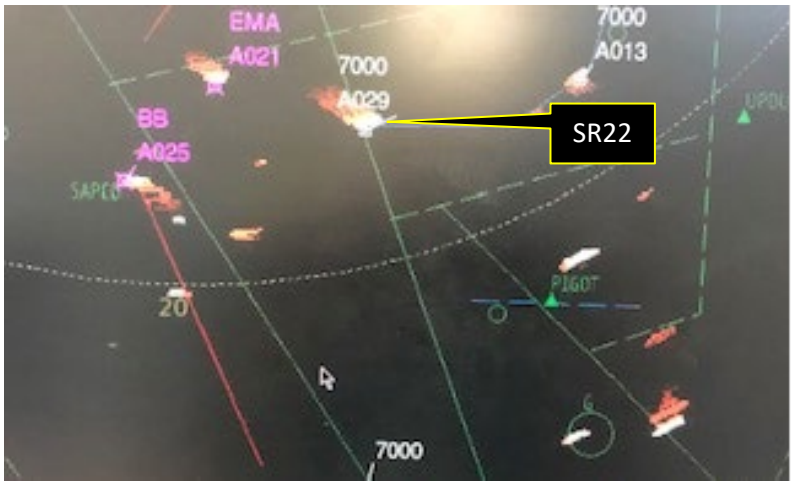


Figure 2 - 1537:40. The SR22 squawk changed to 7000.

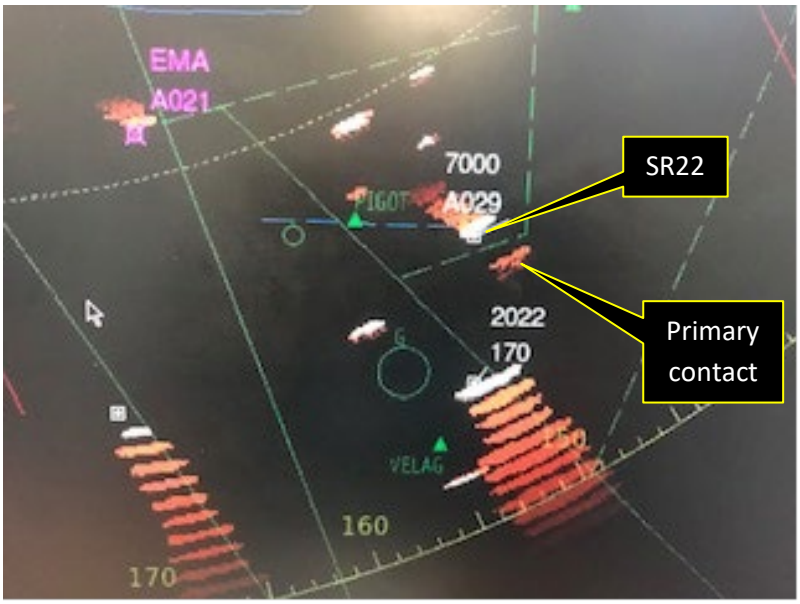


Figure 3 - 1541:20. A faint, primary-only contact was observed ahead of the SR22.

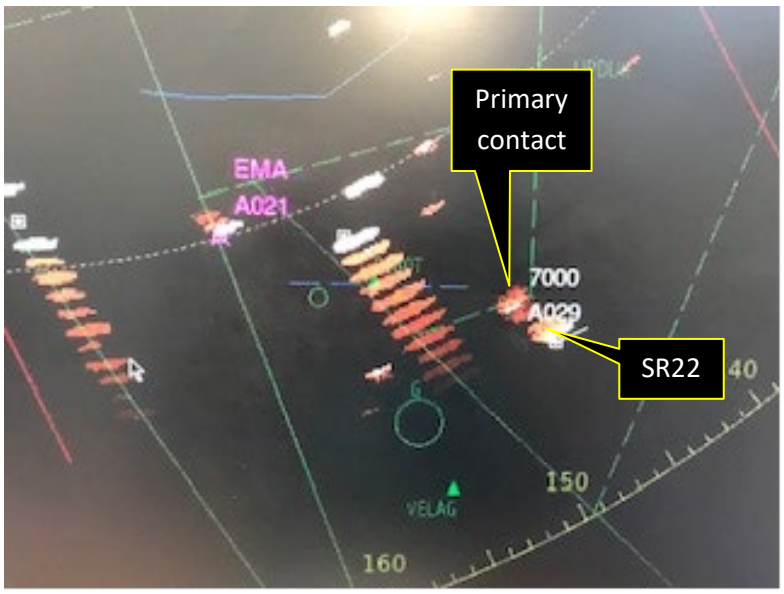


Figure 4 - 1542:15 [after CPA]. The labels for the SR22 and the primary-only contact had diverged.

Factual Background

The weather at East Midlands was recorded as follows:

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METAR EGNX 091550Z 06014KT CAVOK 19/10 Q1015
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Analysis and Investigation

UKAB Secretariat

An analysis of the NATS radar replay was undertaken. The SR22 could be positively identified from Mode S data (see Figure 5). The SR22 was observed to have been at a Flight Level and an appropriate conversion factor was used to determine its altitude. The ASK21 was not observed on the NATS radar replay.

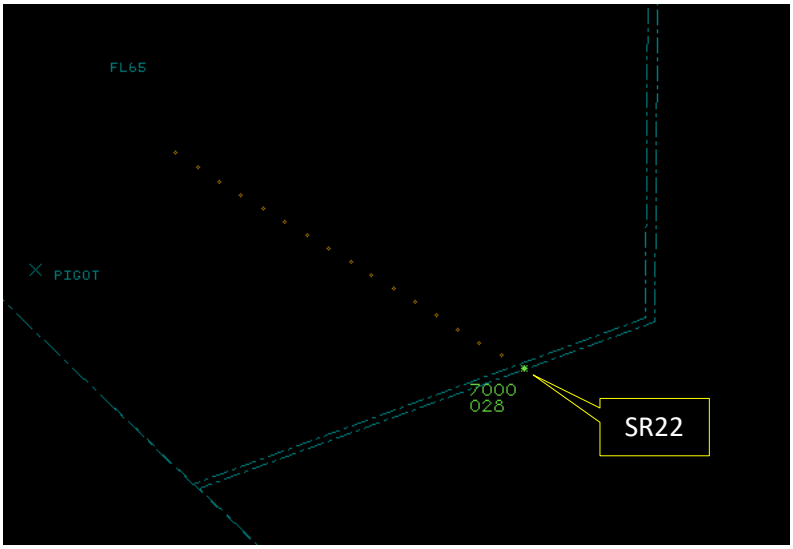

Figure 5 – CPA at 1541:32

The UKAB Secretariat has acquired ADS-B data for the altitude of the SR22 and EC device data for the altitude of the ASK21. The diagram was constructed and an approximation of the separation at CPA determined by combining the separate data sources.

The ASK21 and SR22 pilots shared an equal responsibility for collision avoidance and not to operate in such proximity to other aircraft as to create a collision hazard.[1] If the incident geometry is considered as head-on or nearly so then both pilots were required to turn to the right.[2] If the incident geometry is considered as converging then the SR22 pilot was required to give way to the ASK21.[3]

Comments

AOPA

It is disappointing that a GA pilot hasn't taken part in the process. Unless all involved in the Airprox are part of the investigation, all learning points cannot be assembled and then distributed for other pilots to learn from. It must be remembered that the United Kingdom Airprox Board does not [sanction] pilots or allocate blame.

BGA

The difficulties of sighting another aircraft approaching head-on with no relative motion are well-known. Many pilots now opt to permanently switch on forward-pointing high-intensity landing lights, even in full daylight, to aid visual conspicuity in this direction. Directional canopy-mounted flashers are available for many types of gliders, which may also aid visual acquisition in these type of conflicts.

Summary

An Airprox was reported when an ASK21 and an SR22 flew into proximity 2NM west of Market Harborough at 1542Z on Friday 9th June 2023. The pilot of the ASK21 had been operating under VFR in VMC, listening out on the Husbands Bosworth Radio frequency. It could not be determined whether the pilot of the SR22 had been in receipt of an ATS.

PART B: SUMMARY OF THE BOARD'S DISCUSSIONS

Information available consisted of a report from the ASK21 pilot, radar photographs/video recordings, GPS data and a report from an Air Traffic Service Unit. Relevant contributory factors mentioned during the Board's discussions are highlighted within the text in bold, with the numbers referring to the Contributory Factors table displayed in Part C.

The Board first considered the actions of the pilot of the ASK21 and noted that they had tuned their radio to the Husbands Bosworth Radio frequency. A member, familiar with the gliding site at Husbands Bosworth, explained that it had been most likely that there had not been an Air/Ground Radio Operator on frequency at the time of the Airprox and that any transmissions made by pilots would have been addressed as blind calls to 'Husbands Bosworth traffic'. It was noted by members that the pilot of the ASK21 had not reported having heard any transmissions by the pilot of the SR22, and it was further noted that the EC device fitted to the ASK21 would not have been expected to have detected the presence of the SR22 (**CF2**). It was therefore agreed that the pilot of the ASK21 had not had situational awareness of the SR22 in the area until it had been visually acquired (**CF1**).

Noting that the altitude of the ASK21 could not be determined from either the East Midlands radar screenshots or the NATS radar replay, a member with particular knowledge of gliding operations explained that the altitude data taken from the EC device fitted to the ASK21 may have had an error margin of up to 200ft from the actual altitude AMSL. Consequently, the member proffered that greater heed ought to be given to the ASK21 pilot's assessment of the encounter in that the SR22 had been at the same height as their glider. In agreement that the SR22 had been sighted late (**CF3**), members

[1] (UK) SERA.3205 Proximity.
[2] (UK) SERA.3210 Right-of-way (c)(1) Approaching head-on.
[3] (UK) SERA.3210 Right-of-way (c)(2) Converging.

concluded that the turn to the right made by the pilot of the ASK21 had increased separation between the aircraft at the last minute.

Turning their attention to the actions of the pilot of the SR22, members were very disappointed that they had declined to take part in the Airprox process. Members agreed that a more thorough analysis of the Airprox encounter, and the benefit for a wider audience in the interests of flight safety, had been hindered by this non-participation.

Nevertheless, members resumed their deliberations and noted that the pilot of the SR22 had selected the East Midlands conspicuity squawk on their transponder. Members wondered why they had not elected to have been in receipt of an ATS, and agreed that it would have been most prudent to have done so. In further consideration of the track of the SR22, members agreed that a sufficient lateral margin had been given to the gliding site at Husbands Bosworth, and that it may not have been reasonably expected that a pilot would have made a call on the Husbands Bosworth frequency. Notwithstanding, and in a return to their previous thoughts on navigation of busy airspace without an ATS, members were keen to point out that had the pilot of the SR22 made a call on the Husbands Bosworth frequency, or had contacted any ATSU in the area, some situational awareness of the presence of gliders in the vicinity may have been gleaned.

Concluding their discussions, and in determination of risk, members were in agreement that the pilot of the ASK21 had not had situational awareness of the presence of the SR22, and assessed that the pilot of the SR22 had not been aware of the ASK21 in the vicinity. It was further agreed that the separation between the aircraft had been such that safety had been much reduced and that there had been a risk of collision (**CF4**). Members concluded that it had been the late sighting of the SR22, and the avoiding action taken by the pilot of the ASK21, that had increased separation at the last-minute. As such, the Board assigned Risk Category B to this event.

PART C: ASSESSMENT OF CONTRIBUTORY FACTORS AND RISK

Contributory Factors:

	2023108			
CF	**Factor**	**Description**	**ECCAIRS Amplification**	**UKAB Amplification**
	Flight Elements			
	• Situational Awareness of the Conflicting Aircraft and Action			
1	Contextual	• Situational Awareness and Sensory Events	Events involving a flight crew's awareness and perception of situations	Pilot had no, late, inaccurate or only generic, Situational Awareness
	• Electronic Warning System Operation and Compliance			
2	Technical	• ACAS/TCAS System Failure	An event involving the system which provides information to determine aircraft position and is primarily independent of ground installations	Incompatible CWS equipment
	• See and Avoid			
3	Human Factors	• Identification/Recognition	Events involving flight crew not fully identifying or recognising the reality of a situation	Late sighting by one or both pilots
	• Outcome Events			
4	Contextual	• Near Airborne Collision with Aircraft	An event involving a near collision by an aircraft with an aircraft, balloon, dirigible or other piloted air vehicles	

Degree of Risk: B.

Safety Barrier Assessment[4]

[4] The UK Airprox Board scheme for assessing the Availability, Functionality and Effectiveness of safety barriers can be found on the UKAB Website.

In assessing the effectiveness of the safety barriers associated with this incident, the Board concluded that the key factors had been that:

Flight Elements:

Situational Awareness of the Conflicting Aircraft and Action were assessed as **ineffective** because the pilot of the ASK21 had not had situational awareness of the presence of the SR22 before it had been visually acquired.

Electronic Warning System Operation and Compliance were assessed as **ineffective** because the EC equipment fitted to the ASK21 would not have been expected to have detected the presence of the SR22.

See and Avoid were assessed as **partially effective** because the pilot of the ASK21 had visually acquired the SR22 at a late stage.